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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/731,743

12/09/2003

Stephen H. Li

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TEXAS INSTRUMENTS INCORPORATED

P O BOX 655474, M/S 3999

DALLAS, TX 75265

EXAMINER

HUYNH, KIM T

ART UNIT

PAPER NUMBER

2111

NOTIFICATION DATE

DELIVERY MODE

07/23/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/731,743	<b>Applicant(s)</b> LI ET AL.	
	<b>Examiner</b> KIM T. HUYNH	<b>Art Unit</b> 2111	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12 and 15-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Khacherian et al. (US Patent 7,362,751)

As per claim 12, Khacherian discloses an arbitration circuit for an output port, comprising:

A FIFO queue containing a head pointer (fig.3, 315, i.e., link list) to data stored in a single common memory(fig.3, 310, i.e., strip memory) shared by a plurality of ports(i.e., input/output ports) and a plurality of characterizing data for each packet received at an input port, wherein a data portion of the packet is stored only in the common memory, the queue forming a look-up table to determine which data will be sent out from the output ports; And (fig.3 & col.4, line 26-col.6, line 17, i.e., strip memory 310 stored data flows from input port 204 and flows to output ports 206 via the controlling link list head pointer 315)

A plurality of arbitration circuits (i.e., data buses 327, 329) coupled to the look-up table for selecting the next packet to be sent out corresponding to a pre-selected characterizing datum wherein the head pointer of the selected packet is utilized to select the packet from the common memory for the plurality of arbitration circuits wherein duplication of memory at the plurality of ports is eliminated. (fig.3 & col.4, line 26- col.6, line 17, i.e., the data to be switched between a selected input port 204 and a selected output port 206 via the controlling link list head pointer 315 and common strip memory unit 310)

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khacherian et al. (US Patent 7,362,751) in view of Kelly et al. (US Patent 6,760,793)

As per claims 15-21, Khacherian discloses all the limitations as the above but does explicitly disclose the switch fabric 202 of Khacherian is a PCI Express (revision 1.0a) switch. However, Kelly discloses this, (fig.8, 801, i.e., PCI Express switch)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Kelly's teaching into Khacherian's system so as provide an improved method for PCI Express switch system to improve transaction ordering and buffer management requirements for data consistency and to avoid data congestion and deadlocks. (col.1, lines 54-58)

As per claim 16, Khacherian discloses wherein the common memory is shared by all ports in the fabric switch 202. (fig.3 & col.5, line 48-60)

As per claims 17, 20, Khacherian discloses wherein the common memory is a crossbar memory. (fig.3, 310)

As per claim 18, Khacherian discloses wherein the crossbar memory is a common port, virtual channel or type memory. (fig.3, 310, i.e., strip memory)

As per claim 19, Khacherian discloses therein the switch comprises:

A plurality of ports; (fig.3, 204 & 206)

A plurality of port controllers, each controller being coupled to one of the ports. (fig.3 & col.4, line 26-col.6, line 17)

A local bus coupling the port controllers to a controller subsystem; (fig.3 & col.4, line 26-col.6, line 17) and

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A single crossbar memory coupled to each of the port controllers and the controller subsystem, the crossbar memory serving as a common port or virtual channel memory for each of the port controllers. (fig.3 & col.4, line 26-col.6, line 17)

As per claim 21, Khacherian discloses wherein the crossbar memory is used as the replay memory by string the head pointer in the port controllers. (fig.3 & col.4, line 26-col.6, line 17)

***Response to Amendment***

5. Applicant's amendment filed on 3/26/09 have been fully considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

6. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571)272-3635 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 9:00AM-6:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached at (571)272-3632 or via e-mail addressed to [mark.rinehart@uspto.gov].*

*The fax phone numbers for the organization where this application or proceeding is assigned are (571)273-8300 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.*

/K. T. H./

Examiner, Art Unit 2111

/MARK RINEHART/

Supervisory Patent Examiner, Art Unit 2111